FEB 18 1942
SH
11
A47

FISHERY MARKET NEWS

JANUARY 1942

ISSUED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
WASHINGTON

UNITED STATES
DEPARTMENT OF THE INTERIOR

HAROLD L. ICKES, Secretary

FISH AND WILDLIFE SERVICE

IRA N. GABRIELSON, Director

FISHERY MARKET NEWS

R. H. Fiedler, Editor
F. F. Johnson, Associate Editor

TECHNOLOGY - - J. M. Lemon
STATISTICS - - - - E. A. Power

MARKET NEWS - - A. W. Anderson
MARKETING - - - - - Ralph Russell

Applications for FISHERY MARKET NEWS, which is delivered free to members of the fishery industry and allied interests, should be addressed to the Director, Fish and Wildlife Service, United States Department of the Interior, Washington, D. C.

The Service assumes no responsibility for the accuracy of material from outside sources.

TABLE OF CONTENTS

	Page
Summary	1
Trends of fishery trade	2
Pasteurization of Crab Meat by J. V. Anzulovic and R. J. Reedy	3
Maritime Commission announces insurance for fishing vessels	7
Sea food and the diet	8
Wholesale and retail prices	8
New England vessel landings continue above normal	9
Fisheries of Maine	9
Fisheries of Massachusetts	9
Fisheries of New York	10
Fisheries of North Carolina	10
Fisheries of Florida	10
Fisheries of Alabama	10
Fisheries of the Great Lakes	10
Chicago receipts continue ahead of 1940	11
Fisheries of Washington	11
Seafoods Branch Laboratory working on Pacific coast fishery problems	12
Canada exempts fish from maximum prices regulations	12
Fisheries of Australia	12
Canary Island fish liver supply small	13
Fisheries of Malaya	13
Frozen fish trade	14
Holdings of frozen fish reach 117,273,000 pounds	14
Freezing of fishery products continues above normal	14
Boston cold-storage holdings drop 16 percent during December	15
New York City cold-storage holdings 11¼ million pounds at year's end	15
Chicago cold-storage holdings near 8 million pounds at end of December	16
Canadian holdings of frozen fish below last year	16
Canadian production of frozen fish declined in 1941	17
Canned fish trade	18
Unsold stocks of canned salmon down to 650,000 cases on December 31	18
Canned salmon quotations up slightly	18
Shrimp pack 26 percent below 5-year average on December 27	19
Pack of canned tuna and mackerel down one-third	19
California sardine landings drop in December	20
Foreign fishery trade	20
Canadian exports of filleted fish to United States 61 percent of quota at end of November	20
South African exports of frozen sea crawfish tails to United States increasing	21
Guide to the Fishes of the Great Lakes and Tributary Waters. By Carl L. Hubbs and Karl F. Lagler, reviewed by A. W. Anderson	21
The cover page	22
Fishery trade indicators	23
Maritime Commission states vessels not available for Bristol Bay	22

FISHERY MARKET NEWS

A REVIEW OF CONDITIONS AND TRENDS OF THE COMMERCIAL FISHERIES

January 1942 | Washington, D. C. | Vol. 4, No. 1

SUMMARY

Special Articles

Pasteurization of Crab Meat.--By pasteurization, a long known method, the once-steamed flesh is resubjected in #2 flat enameled cans to below 212° temperatures for varying periods. Result: an extension of keeping time for the fresh meat; no impairment of color, aroma, or taste; and destruction of organisms indicative of pathogenic contamination.

Maritime Commission Announces Insurance for Fishing Vessels.--If commercial underwriters will not put policies on your ship or its crew at "reasonable terms and conditions", the U. S. Maritime Commission announces it is now authorized to write war-risk insurance whenever in its opinion such insurance could not otherwise be obtained. Coverage includes "insurance against loss of life, personal injury or detention of Masters, Officers, and crews of American vessels", as well as on hulls. The article gives detailed information.

Fresh Fish

Reaction in agricultural commodity markets during the week ending December 27 caused its index of nearly 900 wholesale price series to drop 0.2 percent from the 12-year peak reached the preceding week.

Total deliveries for the first 11 months at the ports of Portland (Me.), Boston and Gloucester (Mass.) represent new records for landings at these ports.

Beginning December 15, Gloucester rosefish draggers speeded up their sailing schedules, remaining in port only two days between trips instead of four.

Otter trawlers off Long Island have had the best fall fishing in years. The eel run on Long Island has been taken mostly in traps and with spears.

Catch of groupers and red snappers has been below average in Florida. Crews for snapper vessels are hard to find.

Alabama's fisheries are feeling the labor shortage. Spotted trout, red and black drum, and bluefish have all had exceptional runs this season.

Lake Erie catch in Michigan, Ohio, and Pennsylvania waters showed respective declines during 1940.

The boom in dogfish and soupfin shark livers in Washington waters results in large decreases in vessel catches of edible food fish.

December landings of sardines in California were down about two-thirds from the previous month.

Frozen Fish

Holdings in domestic cold-storage plants of 117,273,000 pounds on December 15 were the largest in history. In addition, the plants froze over 246 million pounds of fish and shellfish in 1941 to that date, exceeding by 50,000,000 pounds the next largest amount, the 196½ million total of 1940. Salmon, halibut, and whiting were species held in largest quantities.

Canned Fish

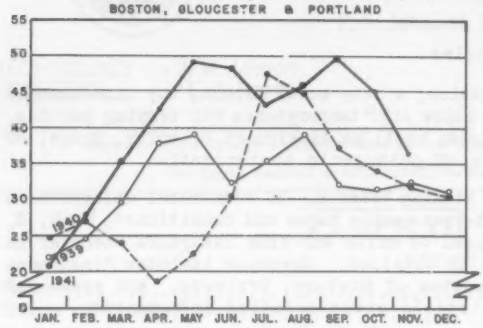
Unsold stocks of canned salmon declined over 300,000 cases in December, and on December 31 were about a third under the same date in 1940. Quotations rose 5-15¢ per dozen on January 1, 1942, for those varieties and sizes not already sold out at prices prevailing a month earlier.

The current season's shrimp pack is running 26 percent under the 5-year average; canned mackerel is off 47 percent; tuna, 54 percent.

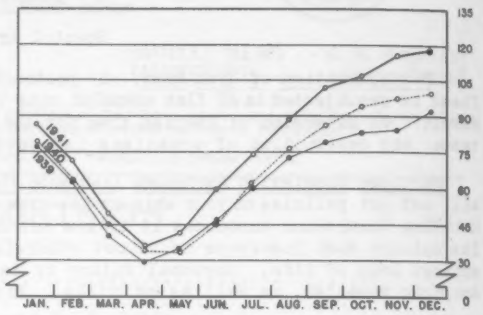
TRENDS OF FISHERY TRADE

In millions of pounds

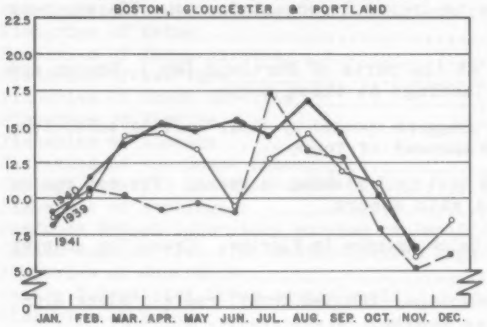
VESSEL LANDINGS, ALL FRESH FISH
BOSTON, GLOUCESTER & PORTLAND



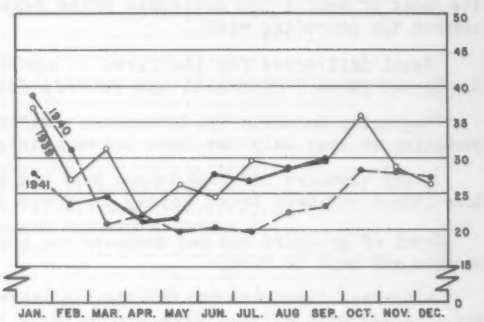
DOMESTIC COLD-STORAGE HOLDINGS OF FROZEN FISH



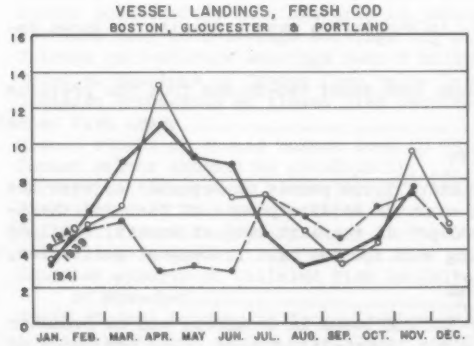
VESSEL LANDINGS, FRESH HADDOCK
BOSTON, GLOUCESTER & PORTLAND



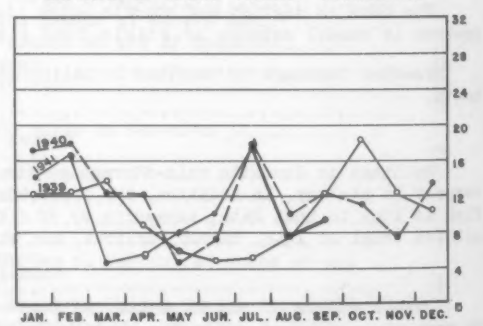
IMPORTS OF EDIBLE FISHERY COMMODITIES



VESSEL LANDINGS, FRESH COD
BOSTON, GLOUCESTER & PORTLAND



EXPORTS OF EDIBLE FISHERY COMMODITIES



PASTEURIZATION OF CRAB MEAT

By
J. V. Anzulovic and R. J. Reedy, Bacteriologists
Technological Laboratory
Division of Fishery Industries
U. S. Fish and Wildlife Service

Experiments in pasteurizing the fresh-cooked meat of the blue crab Callinectes sapidus were conducted to determine whether this process would prolong the keeping quality--thus increasing the shipping radius--and to ascertain if the heat applied during pasteurization would affect the aroma of the fresh-cooked product, impair its taste, kill E. coli, reduce the total number of bacteria, and change the pH value. The pasteurizing temperatures and times most suitable for use in commercial practice also were studied.

Pasteurization has been used to preserve food since Scheele in 1782 used the process in preparing vinegar. It was not popular until Pasteur in 1860-64 demonstrated that a temperature below the boiling point of water would kill pathogenic organisms.

Puncochar and Pottinger (1) tried to preserve the quality of fresh-cooked crab meat in the original one-pound containers by applying heat above the boiling point of water. They found that some white crab meat was discolored, and loss of weight was observed as well as shrinking of the meat. Tobin and McCloskey (2) used the same process but were not successful in maintaining the color of white crab meat the same as when fresh. In the experiments to be described temperatures below the boiling point of water were used.

Pasteurization, as used in this paper, is understood to be a process of heating the fresh-cooked crab meat at a temperature below the boiling point of water. The exposure to heat involves both temperature and time, one being as important as the other.

Experimental Procedure

The fresh-cooked crab meat used in the experiments was bought in one-pound cans from a wholesale dealer in Washington, D. C., and brought to the College Park laboratory where it was divided into three portions. Two portions were pasteurized and the third was used as a nonpasteurized control sample. Total count of bacteria and the presence of E. coli were determined. Organoleptic tests were conducted and pH values measured.

The samples to be pasteurized were packed in #2 flat enameled cans, closed with a double seam in a hand sealer and pasteurized in a water bath. The water temperature was maintained five degrees above the desired temperature of the crab meat. The temperature of the pasteurized samples was determined by inserting a thermometer in one of the cans so that the bulb would be in the center of the meat. As soon as the crab meat reached the proper temperature the heat was regulated and the samples held at that temperature for the period of time selected.

The temperatures and times used during these experiments were as follows:

145° F. for 30 minutes.
150° F. for 20 minutes.
155° F. for 15 minutes.
160° F. for 10 minutes.
170° F. for 1 minute.

The temperatures and times selected represent the combinations below the boiling point of water which kill the majority of organisms that cause spoilage of fresh-cooked crab meat.

The bacteriological and pH determinations were made from 1 to 10 dilutions which were prepared by placing 20 grams of the crab meat from the center of the cans into sterile mason jars containing 180 cc. of water and 2 heaping teaspoons of glass beads. The jars were shaken thoroughly and the supernatant liquid used for making further dilutions to determine the total number of bacteria per gram in the samples. The medium used was nutrient agar which was incubated at 37° C. for 48 hours. Other portions of the liquid were used to test

for E. coli by the Rapid MacConkey Agar method (3). The pH value was determined by using a Beckman pH meter.

Organoleptic tests were performed by several members of the laboratory staff who were requested to judge the crab meat according to color, aroma, and quality - the latter a combination of color, aroma, and taste. The purpose of these tests was to determine whether they would be able to separate the pasteurized from the nonpasteurized crab meat samples.

A total of ninety-nine pounds of fresh crab meat was used in these experiments, representing samples from nine different plants from three States along the Atlantic and Gulf coasts. The 57 pounds of white crab meat and 42 pounds of darker claw meat were judged separately.

Nonpasteurized samples.

The fresh-cooked meat was examined when the one-pound cans were first opened and test data recorded for comparison with the same meat after pasteurization. The color and aroma of the meat were graded as "very good", "good", and "fair". Fifty-two cans of white meat, or 91 percent, were "very good" in color while 9 percent was rated as "fair". The aroma of forty-eight cans, or 84 percent, was "very good" and 16 percent was classified as "good". Of the darker claw meat 40 cans, or 95 percent, were "very good" in color and 5 percent, "fair". The aroma of the claw meat was "very good" for 36 cans, or 86 percent; "good" for 4 percent; and "fair" for 10 percent.

TABLE 1.--Comparison of Color in Pasteurized and Nonpasteurized Crab Meat

Item	Treatment	Color			Total cans judged
		Very good	Good	Fair	
		Percent	Percent	Percent	Number
White meat	Pasteurized	92	0	8	101
	Nonpasteurized	91	0	9	57
Claw meat	Pasteurized	93	3	4	74
	Nonpasteurized	95	0	5	42

In judging the quality of the nonpasteurized samples the members of the technological staff also placed them in three classes--"very good", "good", and "fair". Of the 27 nonpasteurized samples of claw meat, 30 percent was classed as "very good"; 30 percent as "good" and 40 percent "fair". Of the 47 nonpasteurized samples of white meat, 21 percent was "very good"; 45 percent was "good"; and 34 percent was "fair".

TABLE 2.--Comparison of Aroma in Pasteurized and Nonpasteurized Crab Meat

Item	Treatment	Aroma			Total cans judged
		Very good	Good	Fair	
		Percent	Percent	Percent	Number
White meat	Pasteurized	87	12	1	101
	Nonpasteurized	84	16	0	57
Claw meat	Pasteurized	85	10	5	74
	Nonpasteurized	86	4	10	42

The total count of bacteria found in the nonpasteurized samples ranged from 100,000 to 220,000,000 per gram. Of the 75 samples tested, only 4 were found to contain 146,600,000 or more. Six samples contained from 73,300,000 to 146,600,000 while 65 samples had 100,000 to 73,300,000. Ninety-one nonpasteurized samples were tested for E. coli and 15 percent was found to be positive. The pH value of seventy-nine nonpasteurized samples was determined. The lowest value was 7.35 and the highest 8.5.

Pasteurized samples.

One hundred and seventy-five #2 flat cans of crab meat were pasteurized. Of these, 101 contained white crab meat and 74 darker claw meat. The 101 cans of white meat were rated as follows with respect to color: "Very good" 92 percent; "fair" 8 percent. The 74 cans of claw meat were judged, "very good" 93 percent; "good" 3 percent; and "fair" 4 percent. According to aroma, the cans of pasteurized white meat were judged as "very good", 87 percent; "good", 12 percent; and "fair", 1 percent. Pasteurized claw meat was classified as "very good", 85 percent; "good", 10 percent; and "fair", 5 percent.

When they were judged for quality with nonpasteurized crab meat, the white pasteurized samples were placed as follows: "Very good" 37 percent, "good" 33 percent, and "fair", 30 percent. The total number of white meat samples judged for quality was 87. The claw meat was placed as follows with respect to quality: "Very good" 32 percent; "good" 32 percent; and "fair" 36 percent. The total number of claw meat samples judged for quality were 69.

TABLE 3.--Comparison of Quality in Pasteurized and Nonpasteurized Crab Meat

Item	Treatment	Quality			Total cans judged
		Very good	Good	Fair	
		Percent	Percent	Percent	Number
White meat	Pasteurized	37	33	30	87
	Nonpasteurized	21	45	34	47
Claw meat	Pasteurized	32	32	36	69
	Nonpasteurized	30	30	40	27

All of the pasteurized samples were found to be free from E. coli.

The greatest change in pH value was .4 in one sample when compared with the original nonpasteurized crab meat. The pH values of the other pasteurized samples were within .2 of the original pH readings.

The total count of bacteria in pasteurized samples ranged from zero to 23 million per gram. A few samples had a number of pin-point colonies. The samples with a large number of organisms were those pasteurized at 145° F. for one-half hour. The samples pasteurized above 160° F. had no more than 2,000 colonies per gram of crab meat.

Discussion of Data

The experimental results presented indicate that the pasteurization of crab meat eliminated E. coli; therefore, it could be assumed that there were no pathogenic organisms present. The total number of organisms in the pasteurized samples was small when compared with the nonpasteurized samples even after 6 weeks' storage at ordinary refrigerator temperature (41° - 43° F.).

The change in the pH value cannot be used as an indicator to determine whether or not fresh-cooked crab meat is pasteurized because the difference is too small to be significant.

As the various grades of crab meat usually are sold according to color, aroma, and taste, there is no objection to pasteurization because there were no noticeable changes which took place during the process. This is further confirmed by the critical placement of the samples by the technological staff. They were unable to distinguish between the nonpasteurized and pasteurized crab meat as evidenced by the close agreement of the percentage classifications of the two types before and after pasteurization.

Pasteurization can be accomplished with the usual equipment found in the average crab meat packing plant with the addition of a can sealer. After the cans are sealed they should be placed in the racks which are used to steam the live crabs, and then placed in a retort containing water five degrees higher than the desired pasteurizing temperature. Any other container will do in which the temperature of water can be controlled. When the crab meat reaches the desired temperature it is held for the proper time. At the end of that period the cans should be removed and immediately cooled, either by immersion in cold water, or by a stream of cold water played on them until most of the heat is removed. The cans of crab meat then should be placed in a refrigerator or thoroughly iced for shipment. Further work is in progress on methods of procedure, information concerning which may be obtained by addressing the Service.

It should be distinctly understood that the pasteurizing process does not sterilize the crab meat. It is still a perishable product. However, pasteurizing does prolong the keeping quality for a considerable time.

The experiments demonstrate that when good quality fresh crab meat was used the final product also was good. It must be realized that pasteurization cannot replace absolute cleanliness in the care and handling of crab meat in the packing plants.

Conclusions

From the experiments the following conclusions are warranted:

1. Pasteurization does not in any way impair the color, aroma, or taste of crab meat.

2. Pasteurization kills a large number of organisms including E. coli.

3. The pasteurizing temperatures and times recommended for use in crab meat plants are 160° F. for ten minutes or 170° F. for one minute.

4. The average crab meat plant can use its present equipment with the addition of a can sealer.

References

(1) Puncochar, J. F., and Pottinger, S. R. 1938. Commercial production of meat from the blue crab. (Callinectes sapidus). Unpublished report, 1938. Fish and Wildlife Service, Department of the Interior.

(2) Tobin, L. C., and McCloskey. 1941. Bacteriological studies of fresh crab meat. Food Research 6 (2), p. 157.

(3) Reedy, R. J., and Anzulovic, J. V. 1941. A paper #A13. The Society of American Bacteriologists Annual Meeting.

0-0-0

MARITIME COMMISSION ANNOUNCES INSURANCE FOR FISHING VESSELS

War-risk insurance and reinsurance provided by the U. S. Maritime Commission for American ships is now available for fishing vessels, according to a statement from the Commission dated January 1, 1942.

Legislation passed in June 1940 amending the Merchant Marine Act of 1936 authorized the Commission to write war-risk insurance whenever in its opinion such insurance could not be obtained from commercial underwriters at "reasonable terms and conditions". Now, since American entry into the war, a $40,000,000 revolving fund has been set up in the Treasury Department to provide insurance when necessary.

An initial statement issued by the Commission indicated this insurance covered only the ships themselves--not crew and cargo--and pointed out that a Wartime Insurance Committee has been set up within the Commission to quote hull rates and handle risks submitted by shipowners who wish to take advantage of this offer.

A subsequent communication from the Commission to the Service increases the scope of coverage to include "insurance against loss of life, personal injury or detention of Masters, Officers and Crews of American vessels, whenever it appears to the Commission that such insurance adequate for the needs of the water-borne commerce of the United States cannot be obtained on reasonable terms and conditions from companies authorized to do an insurance business in a State of the United States."

It is further explained that the Legal Division of the Commission has ruled that the "water-borne commerce" in the original Act, is inclusive of fishing vessels.

Among the conditions prescribed for Commission insurance is the holding of a ship warrant by the assured. Under the ship warrants system, a warrant granting priority in the use of shore facilities is given to a vessel that cooperates with the war effort and national defense by carrying cargoes on trade routes at freight and charter rates approved by the Commission.

For the placing of war-risk insurance with the Commission, the following rules of procedure are given:

1. All risks should be submitted by letter or telegram addressed to the United States Maritime Commission, Washington, D. C., and directed to the Attention of the Wartime Insurance Committee. Where risks are offered by telephone, telegraphic confirmation must also be received by the Commission before any quotation will be made.

2. Requests for quotations should be received by the Commission not later than 4:00 P.M. (Eastern Standard Time) on the date quotation is desired.

3. All requests for quotations should contain following information: (a) Name of Vessel; (b) Name of Owner; (c) Voyage for which quotation requested, and anticipated number of days involved; (d) Expected Sailing Date; (e) Amount of insurance requested and Total Value of Vessel for War-Risk Insurance purposes; (f) Statement as to inability to obtain adequate insurance at reasonable terms and conditions from commercial underwriters.

4. Unless otherwise stipulated by the Commission, quotations will hold good until 1:00 P.M. (Eastern Standard Time) of the first business day following quotation and will expire at that time if not accepted.

5. Acceptance of quotation must be evidenced by (a) telegraphic notice to the Commission filed prior to 1:00 P.M. (Eastern Standard Time) of first business day following quotation, and (b) delivery of a certified check, cashier's check or money order, made payable to the United States Maritime Commission and bearing the serial number of the binder for identification, to United States Maritime Commission, Division of Insurance, Washington, D. C., or any of the following district agents and/or managers: Baltimore, Md., Los Angeles, Cal., New Orleans, La., New York, N. Y., Norfolk, Va., San Francisco, Cal., Seattle, Wash., not later than 1:00 P.M. (Eastern Standard Time) of first business day following quotation.

6. Vessels insured by the Commission must sail within thirty (30) days of acceptance of risk unless an extension is granted by the Commission and an additional premium paid if required; or unless some shorter period of time is stipulated by the Commission at time of quotation.

7. All risks accepted by the Commission will be subject to the current rules, regulations, conditions and policy forms as prescribed by the Commission, and to the possession by the Assured of a United States Warrant, and in certain instances of a British Ship Warrant. For the present, policy forms prescribed by the Commission will be substantially equivalent to those provided by the commercial market.

8. The Commission reserves the right to decline to quote on any risk submitted, or to defer quoting on risks where prompt sailing of the vessel is not anticipated.

In connection with the placing of this insurance on fishing vessels, in addition to these rules, the following information will be of assistance to the Commission.

1. The areas in which actual fishing operations are conducted.
2. Length of time normally at sea.
3. Length of time normally in port between voyages.
4. Whether the vessels are equipped with radio.
5. Whether the vessels are operated under any sort of Naval control.
6. Whether the vessels fish singly or in fleets.
7. Size, age and condition of the vessels and amount of marine insurance now in force (this information is only required where insurance on the vessels themselves is requested).
8. Number of members of the crew and amount of insurance per man.

SEA FOOD AND THE DIET

Considerable information on proteins, vitamins, and minerals in fishery products has been concentrated in Seafood and the Diet, publication No. 42 of the Chemical Biological Laboratory, Solomons Island, Maryland. The American people require seafoods as a staple and cheap food and also for therapeutic reasons, according to the authors--J. M. Lemon of the Service's Technological Laboratory at College Park, Md., and R. V. Truitt of the Maryland Department of Research and Education. They suggest that the marketing elements of the industry cease competing to supply the existing demand and endeavor to expand the use of fishery products through stressing their inherent qualities.

WHOLESALE AND RETAIL PRICES

A reaction in agricultural commodity markets during the week ending December 27 caused its index of nearly 900 wholesale price series to drop 0.2 percent from the 12-year peak reached the preceding week, according to the Bureau of Labor Statistics. The all-commodity index, at 93.8 percent of the 1926 average, was 1.6 percent greater than a month earlier and 17.4 percent above a year previous.

The average retail price of a one-pound tall can of pink salmon in 51 cities was 20.0 cents on November 18, 0.5 percent above mid-October and 27.4 percent higher than a year ago. A one-pound tall can of red salmon averaged 36.3 cents on the same date, 2.8 percent more than in mid-October and 39.1 percent above a year ago. Estimated changes in retail prices of pink salmon in 19 cities during December revealed no further increase since the estimated 0.1 percent rise during the last two weeks in November.

NEW ENGLAND VESSEL LANDINGS CONTINUE ABOVE NORMAL

November deliveries by fishing vessels at the ports of Boston and Gloucester, Mass., and Portland, Maine, continued above normal, and over 37 million pounds of fishery products, valued at $1,387,776, were landed during the month. Total deliveries for the first 11 months of the year, which amounted to 445,300,108 pounds, valued at $14,159,547, represent new records for the landings at these ports.

Landings by Fishing Vessels at Boston and Gloucester, Mass., and Portland, Me.

Species	November 1941		November 1940		Eleven months ending with — November 1941		November 1940	
	Pounds	Cents*	Pounds	Cents*	Pounds	Cents*	Pounds	Cents*
Cod	7,460,612	4.33	7,387,351	3.19	71,146,695	3.47	56,315,768	3.37
Haddock	6,879,350	5.69	5,031,412	4.64	139,803,919	4.03	114,211,654	3.65
Hake	636,205	4.34	727,397	3.38	4,824,270	3.89	5,525,986	3.16
Pollock	10,036,028	2.57	9,760,175	1.83	25,581,024	2.73	24,111,901	2.16
Cusk	559,076	3.69	772,603	2.74	4,087,668	3.30	5,365,311	2.89
Halibut	23,038	23.52	23,774	20.83	697,192	15.92	940,317	14.72
Mackerel	662,495	6.63	515,642	4.11	24,568,996	2.58	20,594,054	1.98
Flounders:								
Gray sole	287,385	5.09	222,686	5.50	4,096,343	4.70	5,614,340	4.18
Lemon sole	97,735	11.21	74,832	11.42	2,294,311	7.13	2,002,616	6.78
Yellowtail	460,609	2.77	561,640	1.94	4,655,444	2.28	5,702,098	1.90
Blackback	148,625	4.82	123,525	4.03	1,164,193	4.02	1,175,020	4.01
Dab	211,900	3.61	141,317	2.70	3,340,861	2.82	3,217,236	2.39
Other	580	-	920	-	40,819	-	357,225	-
Swordfish	-		-		474,535	29.26	791,637	21.51
Rosefish	8,803,580	2.08	6,188,440	1.78	132,944,035	2.02	76,430,086	1.45
Tuna	-		-		144,967	6.00	249,884	4.98
Whiting	449,372	3.14	238,503	1.58	22,336,236	2.09	16,731,447	1.23
Wolffish	37,820	5.38	28,735	4.52	1,009,751	3.77	848,276	3.36
Scallops (meats)	211,626	29.37	106,375	17.98	1,570,777	21.45	1,088,836	16.09
Other	78,277	-	123,161	-	518,072	-	843,955	-
Total	37,044,313	3.75	32,028,488	2.80	445,300,108	3.18	342,117,647	2.86

* Weighted average prices per pound paid to fishermen.

FISHERIES OF MAINE

The Maine sardine packing season closed with small catches and exceptionally high prices, according to the mid-December report of the Service's marketing agent in that State. Many of the lobster fishermen have taken up their traps for the winter. It is reported that there will be a strong demand for soft clams for canning this winter. Clam draggers report offers of 70 cents per bushel in the shell in some localities.

FISHERIES OF MASSACHUSETTS

In Gloucester a few pollock gill netters have made fairly good catches but most of the fleet has been averaging fares of 2,000 to 3,000 pounds. Prices have ranged from $2.25 to $2.65 per hundred pounds, according to the Service's agent in that port.

Beginning December 15, rosefish draggers speeded up their sailing schedules, remaining in port only two days between trips instead of four. Rosefish prices were $2.25 per hundred pounds.

Over 46 million pounds of fish and shellfish were landed in New Bedford during 1941, according to preliminary estimates based on hails as listed in the Service's Boston Market News reports. Landings of yellowtail flounders were reported as over 28 million pounds, sea scallops 5,600,000 pounds, haddock 3,800,000 pounds, mackerel 2,800,000 pounds, blackback flounders 2,600,000 pounds, cod 1,300,000 pounds, and lemon sole and other flounders 800,000 pounds. Received in smaller quantities were swordfish, scup, and mixed fish.

FISHERIES OF NEW YORK

Otter trawlers off Long Island have had the best fall fishing in years, according to the mid-December report of the Service's agent in that area. The run of eels is being taken mostly in eel traps and with spears. Prices have increased with dressed eels bringing 20 cents per pound. Live eels sell for 12 to 15 cents per pound to the retail trade as compared with about 10 cents offered by smokers. Eels held in live-cars for the Christmas trade were expected to bring 15 to 17 cents per pound from buyers who take a fisherman's whole catch.

FISHERIES OF NORTH CAROLINA

Oysters have improved in quality and the production will be well above the 1940 output in North Carolina, according to the Service's agent in that State. Prices range from $1.65 per gallon for standards to $2.00 per gallon for selects. The production of other fish is so low, because of the scarcity of fishermen, that most of the fish buyers who usually are in this section at this season have been transferred to other fishing centers.

FISHERIES OF FLORIDA

The catch of red snapper and groupers has been below average in Florida, according to the mid-December report of the Service's agent in that area. In Pensacola it has been difficult to obtain crews for the snapper vessels.

There have been large catches of Spanish mackerel in the Florida Keys and a noticeable increase in the number of establishments recently erected as branches of Miami fish companies. It is estimated that about 75 percent of all the fish handled in the greater Miami area comes from waters around the Keys. Efforts are being made to determine whether it is profitable to save the livers of Spanish mackerel and king mackerel. Five cents per pound is being paid for all the viscera in order to secure the livers.

FISHERIES OF ALABAMA

A scarcity of labor in the fisheries appears to be the chief problem in Alabama, according to the Service's agent in that State. Alabama dealers estimate that the production of shrimp dropped about 7 percent in 1941 and prices paid the fishermen were almost double. However, it is believed that only about half as many persons were engaged in the fishing industry in 1941 as in 1940. The largest run of fish since the freeze during the winter of 1939-1940 occurred recently in Alabama. Spotted trout have been abundant in the rivers around Mobile Bay. Red and black drum have been more plentiful and larger, and the runs of bluefish have been the largest in years.

FISHERIES OF THE GREAT LAKES

The Michigan waters of Lake Erie produced 1,042,000 pounds of fish during 1940 as compared with 1,251,000 pounds in 1939. Carp, yellow pike, and sheepshead were the most important species taken, according to the report of the Service's agent in that area.

The Ohio waters of Lake Erie produced 18,995,000 pounds of fish in 1940, a decrease of 4,516,000 pounds as compared with 1939. Blue pike, yellow pike, sheepshead, yellow perch, and carp were the major species. The catch of yellow perch increased considerably while the drop in the production of both blue pike and yellow pike was heavy.

The Pennsylvania waters of Lake Erie produced 2,295,000 pounds of fish during 1940, almost one-half million pounds less than in 1939. The most noticeable changes in the catch for 1940 were the increases in the catches of whitefish and yellow perch and the large decreases in the volume of blue pike, yellow pike, and cisco.

CHICAGO RECEIPTS CONTINUE AHEAD OF 1940

Heavy arrivals of lake herring aided in maintaining November supplies about the same as in October and well ahead of November 1940. Receipts for the first 11 months this year surpass by a few thousand pounds the total for all of 1940, according to the Service's Chicago Market News office.

Receipts of Fishery Products at Chicago

Item	Nov. 1941	Nov. 1941 compared with		11 months Jan. - Nov.	11 mo. 1941 compared with 11 mo. 1940
		Oct. 1941	Nov. 1940		
Classification:	Pounds	Percent	Percent	Pounds	Percent
Fresh-water fish	2,683,000	- 4	- 16	30,693,000	+ 7
Salt-water fish	2,135,000	+ 3	+ 76	19,593,000	+ 32
Shellfish, etc.	1,431,000	- 1	0	9,197,000	- 8
Total receipts	6,249,000	- 1	+ 7	59,483,000	+ 11
Leading items*:					
Lake herring	732,000	+233	- 6	2,783,000	- 8
Lake trout	679,000	+ 20	- 9	5,673,000	+ 1
Sauger	121,000	- 75	- 20	4,397,000	+ 46
Whitefish	256,000	- 12	- 22	3,442,000	- 10
Yellow perch	197,000	- 20	- 9	3,158,000	+ 19
Halibut	741,000	- 24	+ 57	7,609,000	+ 7
Rosefish fillets	326,000	+ 20	+117	4,237,000	+ 39
Oysters, shucked	165,000	+ 59	- 29	747,000	- 28
Shrimp	1,082,000	+ 3	+ 20	6,138,000	- 9
Leading sources:					
Louisiana	603,000	+ 3	+ 2	3,740,000	- 31
Massachusetts	762,000	+ 19	+ 72	8,320,000	+ 57
Michigan	551,000	+ 9	+ 4	5,605,000	- 16
Minnesota	281,000	- 21	+ 6	2,551,000	+ 12
Texas	271,000	- 8	+ 18	1,691,000	+ 72
Wisconsin	888,000	+ 94	- 16	7,365,000	+ 4
Domestic total	4,935,000	+ 14	+ 9	41,292,000	+ 9
Imported total	1,314,000	- 34	- 1	18,191,000	+ 16
Transported by:					
Truck	2,181,000	+ 6	- 11	23,136,000	+ 23
Express	1,102,000	- 16	0	15,034,000	- 16
Freight	2,966,000	+ 1	+ 31	21,313,000	+ 26

* Includes fresh and frozen fish.

FISHERIES OF WASHINGTON

Most fishing vessels are now directing their efforts towards catching dogfish and soupfin sharks for their livers, rather than seeking "sole", sablefish, and other bottom fish usually brought in at this season, according to the Service's Seattle Fishery Market News office.

The extent to which boats have sought shark livers rather than edible food fish is shown by the fact that during the week ending December 21 a year ago, 14 vessels of the halibut fleet landed 152,400 pounds of "lingcod", rockfishes, and sablefish, while during

the same week this year 21 halibut vessels landed only 29,200 pounds of these species. This occurred despite the fact that prices paid were approximately 3 times higher than those a year ago. Landings of fish by otter-trawl vessels likewise amounted to only about 50 percent of those during the corresponding week a year ago.

SEAFOODS BRANCH LABORATORY WORKING ON PACIFIC COAST FISHERY PROBLEMS

Experiments in kippering fish are among the problems being given attention at the Seafoods Branch Laboratory of the Oregon Agricultural Experiment Station in Astoria. In most cases it has been found that the kippering temperature should not rise higher than 230° F. to avoid rapid surface drying and formation of a crust of salt and protein. Depending upon the product, kippering may be done at temperatures from 100° F. to 200° F. for varying lengths of time.

Experimental work begun in July has now culminated in preparations for commercial packs of kippered "lingcod" and kippered rock cod with and without spices, a fish spread, a crab butter, a fish chowder, and crab meat.

With the continued interest in soupfin shark and dogfish livers, the laboratory will soon be in possession of equipment to carry out research in this field and provide packers and fishermen a vitamin assay service. Methods of obtaining and handling large quantities of salmon egg oil have been investigated and a report will be presented soon.

Preliminary work with agitation processes in cooking have resulted in marked improvement in the odor, flavor, color, and texture of canned tuna. The odor, flavor, and texture of canned salmon were improved but the color remained about the same or showed some improvement. A detailed program will be carried out in order to determine optimum procedures.

An orange-red discoloration in oysters appearing after they have been in cold-storage a few days has been studied. The liver tissue evidently is the source of the pigment which is apparently the result of the oysters feeding on red plankton. A green chlorophyll-like pigment also has appeared at certain times.

CANADA EXEMPTS FISH FROM MAXIMUM PRICES REGULATIONS

On December 18 the Chairman of the Wartime Prices and Trade Board issued Order No. 77 by which sales of fish by processors, dealers, and retailers were exempted from the provisions of Section 3 of the Maximum Prices Regulations established by Order in Council P.C. 8527, November 1, 1941.

By "fish" is meant fresh, frozen, cured, or otherwise processed codfish (Eastern or Western), herring (including sardines), haddock, smelt, mackerel, clams, hake, halibut, and all fresh-water fish.

"Fresh-water fish" includes fish which inhabit fresh water but excludes salmon and other fish which inhabit fresh water only temporarily.

The Order went into effect December 27, 1941. The object in removing this limitation of the price on fish was stated to be twofold: (1) to discourage the export of this type of commodity to markets where prices are higher than permissible in Canada, and (2) to render assistance to the hard-pressed fishing industry of Canada.

FISHERIES OF AUSTRALIA

The per capita consumption of fish in Australia is approximately 14 pounds annually, according to a Tariff Board report on the Australian fishing industry in the Canadian Commercial Intelligence Journal. About 4½ pounds consists of imported fish of which 3 pounds is canned. In general the fresh and frozen fish supply for the home table in Australia comes from the demersal or bottom dwelling fishes which are classed as "white" or "table" fish and are not suitable for canning. The pelagic fish are described as "red" as compared with "white", possess a much higher oil content, and may be canned.

The bottom dwelling varieties are satisfactory as to quality but the flavor of the principal Australian fish canned so far--Australian salmon--leaves much to be desired. Tuna is satisfactory as a canned fish and experimental canning of pilchards, anchovies, and barracouta has produced first class products. Mullet, crayfish, and other types of fish also are canned.

The total area of proved trawling grounds off eastern and southeastern Australia and the Great Australian Bight does not greatly exceed 10,000 square miles. The inquiry indicated that pelagic fish in offshore waters constituted the only field for additional exploitation, the principal varieties being barracouta, Australian salmon, tuna, and pilchards.

The majority of the 5,642 boats engaged in the Australian industry are small and only a few units can operate at any distance from safe waters unless weather conditions are favorable. Australian salmon have been caught up to the present with beach seines in shallow inlets or in beach shallows. Due to failures in the runs, consideration has been given to the best method of catching these fish in the open sea. The best method for taking tuna is trawling with live bait. This method is also satisfactory for barracouta.

At present there is a local market for all the fish livers that can be obtained from Australian fisheries. The livers of some species, notably snapper shark, the tiger shark, and the yellowtail have a high vitamin content. These livers are reduced in a modern plant recently established for the purpose. There is a ban on the export of these vitamin oils at present.

The inquiry indicated there would be a local market for all the fish meal and oils that could be produced locally. The greatest difficulty to date in connection with the sale of fresh fish in Australia has been to secure a sufficient supply to meet the demand. Even in Sidney, the base of the largest trawler fleet, there is a continuous shortage. Consequently, prices are high and distribution limited. Provided sufficient quantities could be landed and at lower prices, there is no doubt that all offerings could be sold.

CANARY ISLAND FISH LIVER SUPPLY SMALL

Conservation of fish livers in the Tenerife district of the Canary Islands is insignificant so far, according to Foreign Commerce Weekly. Official figures are unobtainable, but reliable private sources place the output at about one ton per year. The livers are taken from the tunny fish exclusively. It is stated, however, that the catch is limited and irregular.

Canary Island fish liver packers decline to accept any stipulation as to species and grading, guaranteeing only that the livers are from the tunny fish. Packers report that Spanish buyers have in the past two seasons paid surprisingly high prices for tunny livers. Since it is doubtful whether any Spanish refinery is capable of bringing this product to its final state, it is surmised that buyers are shipping the livers abroad, either in the same state in which they leave the islands (packed with approximately 20 to 25 percent salt in barrels), or partly prepared for further utilization.

FISHERIES OF MALAYA

Fish and rice are the two staples of diet for the Asiatic population in Malaya, according to a report of the American Consulate General in Singapore. In 1940 landings for the Malayan market were estimated to be about 100,000 tons. There were 27,000 fishermen and more than 11,000 boats of all types. Coarse salt is imported mainly from Egypt and Thailand. Formerly Malayan nets were imported from Swatow and made of ramie thread. Since the occupation of this section of China, local Chinese fishermen have used nets imported from India. They are made of cotton yarn with 18-20 twists and reported entirely satisfactory.

The Fisheries Department has experimented with the preservation of fish in iced sea water, and iced fish are delivered to nearly all inland markets which may be reached by truck.

The school for training native fishermen continued to function during 1940. Experiments in storing dried fish have been made by the Fisheries Department. In one small installation air conditioning equipment has been utilized for its dehumidifying effect rather than its cooling properties. A Japanese firm canned tuna in North Borneo during 1940 for export to Canada, Great Britain, and the United States; and dried tuna for the use of the Japanese army.

Imports into Malaya are mainly dried and salted fish with minor quantities of canned sardines, salmon, and abalone. Exports are largely a redistribution of imports. Among the fish found in Malayan markets are the following; Bawal puteh (Pomfret); Bunga ayer (mixed small fish); Chencharu (Hardtails); Kurau (Threadfins); Merah (Snapper); Parang (Dorab); Pari (Ray); Tenggiri (Spanish mackerel); Terubok (Herring); and Prawns.

FROZEN FISH TRADE

Holdings of Frozen Fish Reach 117,273,000 Pounds

Holdings of frozen fishery products in domestic cold-storage plants, which totaled 117,273,000 pounds on December 15, were the largest ever held in this country. The record holdings of 100,088,000 pounds reported December 15, 1940, were exceeded in each of the months from September to December, inclusive.

Holdings of Fishery Products in the United States 1/

Item	Dec. 15 1941	Dec. 15 compared with Nov. 15 1941	Dec. 15 compared with Dec. 15 1940	Dec. 15 compared with 5-yr.av. Dec. 15	Nov. 15 1941	Dec. 15 1940	5-yr.av. Dec. 15
	Pounds	Percent	Percent	Percent	Pounds	Pounds	Pounds
Frozen fish and shellfish:							
Total holdings	117,273,000	+ 2	+ 17	+ 28	115,432,000	100,088,000	91,564,000
Important items:							
Croakers	3,167,000	- 17	+159	+161	3,831,000	1,225,000	1,212,000
Cod fillets	3,242,000	+ 1	+ 8	+ 36	3,223,000	3,001,000	2,391,000
Haddock fillets	9,017,000	- 10	+ 41	+ 39	10,061,000	6,399,000	6,473,000
Pollock fillets	5,147,000	+133	- 1	+ 6	2,208,000	5,211,000	4,850,000
Rosefish fillets	4,613,000	- 12	+237	(2)	5,243,000	1,370,000	(2)
Flounders	1,408,000	- 3	+ 41	+125	1,451,000	997,000	625,000
Halibut	11,164,000	- 16	+ 3	+ 24	13,278,000	10,794,000	8,975,000
Mackerel	7,543,000	- 11	- 4	+ 37	8,513,000	7,880,000	5,496,000
Mullet	2,157,000	+ 36	(2)	(2)	1,582,000	(2)	(2)
Sablefish	1,940,000	+ 1	- 35	- 25	1,912,000	2,965,000	2,579,000
Salmon	11,506,000	- 8	+ 4	+ 5	12,455,000	11,074,000	10,935,000
Whiting	10,478,000	- 13	+ 9	+ 2	12,108,000	9,633,000	10,275,000
Lake herring	3,334,000	+317	+ 21	+ 25	800,000	2,765,000	2,660,000
Whitefish	1,659,000	+ 8	- 28	+ 11	1,542,000	2,305,000	1,496,000
Scallops	1,433,000	- 3	- 18	(2)	1,483,000	1,745,000	(2)
Shrimp	9,569,000	+ 31	+ 29	(2)	7,278,000	7,422,000	(2)
Cured fish:							
Herring, cured	10,437,000	- 13	- 49	- 33	11,978,000	20,527,000	15,482,000
Salmon, mild-cured	6,935,000	- 8	+ 45	- 1	7,574,000	4,782,000	6,989,000

1/ Data furnished by the Agricultural Marketing Service, Department of Agriculture.
2/ Data not available.

Freezing of Fishery Products Continues Above Normal

Cold-storage plants in the United States and Alaska froze 21,372,000 pounds of fish and shellfish during the month ended December 15, bringing the total for the year to over 246 million pounds. Prior to 1941 the largest volume of fish and shellfish frozen in any year amounted to 196,515,000 pounds, which was produced in 1940.

Freezings of Fishery Products in United States Cold-storage Plants 1/
(Figures are for the month ending on the date indicated)

Item	Dec. 15 1941	Dec. 15 compared with Nov. 15 1941	Dec. 15 compared with Dec. 15 1940	Dec. 15 compared with 5-yr. av. Dec. 15	Nov. 15 1941	Dec. 15 1940	5-yr. av. Dec. 15
	Pounds	Percent	Percent	Percent	Pounds	Pounds	Pounds
Total fish and shellfish	21,372,000	- 28	+ 31	+ 26	29,482,000	16,316,000	16,974,000
Important items:							
Cod fillets	373,000	- 63	+ 2	- 45	1,005,000	364,000	675,000
Haddock fillets	787,000	- 11	+117	+ 10	888,000	362,000	716,000
Pollock fillets	3,892,000	+ 43	+ 4	+ 13	2,715,000	3,737,000	3,450,000
Rosefish fillets	1,755,000	- 50	+ 26	(2)	3,509,000	1,391,000	(2)
Mackerel	429,000	- 85	+1430	- 9	2,954,000	30,000	471,000
Mullet	694,000	+ 66	(2)	(2)	417,000	(2)	(2)
Whiting	1,075,000	- 54	+123	+ 3	2,358,000	482,000	1,044,000
Lake herring	2,382,000	+434	+ 35	+ 69	446,000	1,768,000	1,408,000
Lake trout	612,000	+190	+ 66	+ 99	211,000	368,000	308,000
Shrimp	3,267,000	- 32	+ 68	(2)	4,780,000	1,939,000	(2)

1/ Data furnished by the Agricultural Marketing Service, Department of Agriculture.

2/ Data not available.

Boston Cold-storage Holdings Drop 16 percent during December

Cold-storage holdings of frozen fishery products in local warehouses were reported to be over 3 million pounds less on December 31 than they were on November 26, according to the Service's Boston Fishery Market News office. Decreases were large in stocks of whiting, haddock, and mackerel.

Frozen whiting holdings in 15 plants in Massachusetts (including those in Boston) and Maine decreased from 7,061,000 pounds on November 29 to 4,917,000 pounds on December 27. The bulk of the stocks moved out consisted of dressed and H & G whiting, fillets, and skuljoes.

Boston Cold-storage Holdings

Item	Dec. 31, 1941	Dec. 31 compared with Nov. 26, 1941	Dec. 31 compared with Dec. 31, 1940	Nov. 26, 1941	Dec. 31, 1940
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	15,776,000	-16	- 7	18,886,000	16,895,000
Leading items:					
Fillets:					
Cod	1,161,000	- 4	- 30	1,212,000	1,649,000
Haddock	2,823,000	-31	+ 12	4,094,000	2,514,000
Pollock	2,689,000	+72	- 23	1,563,000	3,483,000
Rosefish	626,000	+19	+153	528,000	247,000
Mackerel	2,998,000	-15	- 3	3,531,000	3,092,000
Scallops	403,000	-12	- 15	459,000	475,000
Shrimp	541,000	+63	+ 57	332,000	345,000

New York City Cold-storage Holdings 11¼ Million Pounds at Year's End

With 11,278,000 pounds stored in local warehouses, New York City's total holdings of frozen fishery products remained unchanged from the previous month with only small shifts in individual stocks, according to the Service's New York Market News office.

New York Cold-storage Holdings

Item	Dec. 31, 1941	Dec. 31 compared with Nov. 27, 1941	Dec. 31 compared with Dec. 26, 1940	Nov. 27, 1941	Dec. 26, 1940
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	11,278,000	0	+ 11	11,261,000	10,164,000
Leading items:					
Butterfish	734,000	- 2	+101	750,000	366,000
Halibut	576,000	+ 1	+127	573,000	254,000
Mackerel	850,000	-11	- 8	960,000	919,000
Salmon, king (chinook)	642,000	+17	- 26	548,000	862,000
Whitefish	673,000	-15	- 62	789,000	1,787,000
Shrimp	1,232,000	+13	+ 25	1,090,000	988,000

Chicago Cold-storage Holdings Near 8 Million Pounds at End of December

A 23 percent increase during December brought Chicago cold-storage stocks of frozen fishery products to a total of 7,801,000 pounds at the end of the month, more than double the volume held a year ago, according to the Service's local Market News office. Lake herring and shrimp holdings gained heavily during the month.

Chicago Cold-storage Holdings

Item	Dec. 31, 1941	Dec. 31 compared with Nov. 27, 1941	Dec. 31 compared with Dec. 26, 1940	Nov. 27, 1941	Dec. 26, 1940
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	7,801,000	+ 23	+112	6,335,000	3,672,000
Leading items:					
Chubs	340,000	+ 66	0	205,000	(1)
Lake herring	742,000	+179	- 1	266,000	748,000
Lake trout	658,000	+ 11	- 1	592,000	666,000
Halibut	843,000	+ 39	+ 42	607,000	593,000
Whiting	247,000	+ 5	+119	236,000	113,000
Shrimp	1,403,000	+ 37	+ 40	1,026,000	1,003,000

1/ Data not available.

Canadian Holdings of Frozen Fish Below Last Year

Canadian cold-storage plants held 27,854,000 pounds of fresh frozen fish and shellfish on January 1, 1942, according to information released by the Dominion Bureau of Statistics. In contrast to United States stocks of frozen fishery products, which have been the largest in history, Canadian holdings during recent months have averaged about 10 percent below those on the same dates last year.

Holdings of Frozen Fishery Products in Canada

Item	Jan. 1, 1942	Jan. 1 compared with Dec. 1, 1941	Jan. 1 compared with Jan. 1, 1941	Dec. 1, 1941	Jan. 1, 1941
	Pounds	Percent	Percent	Pounds	Pounds
Frozen fresh fish					
Total holdings	27,854,000	-14	-11	32,306,000	31,300,000
Important items:					
Cod fillets	2,224,000	- 1	+24	2,243,000	1,790,000
Salmon	7,597,000	-11	-20	8,491,000	9,528,000
Sea herring	5,276,000	-17	-20	6,365,000	6,586,000
Halibut	5,000,000	-18	+35	6,079,000	3,715,000
Mackerel	819,000	-26	-52	1,109,000	1,703,000
Whitefish	715,000	-23	+27	931,000	561,000
Pickerel	642,000	-18	-32	784,000	943,000
Tullibee	713,000	+16	-33	615,000	1,059,000
Frozen smoked fish					
Total holdings	2,269,000	-20	+21	2,835,000	1,882,000
Important items:					
Finnan haddie	234,000	-10	+16	261,000	201,000
Fillets: Cod, haddock, etc.	1,176,000	-22	+54	1,510,000	762,000
Sea herring kippers	740,000	-19	+ 7	917,000	689,000

Canadian Production of Frozen Fish Declined in 1941

Canadian freezers froze 2,573,000 pounds of fresh fish and shellfish during December, according to preliminary information released by the Dominion Bureau of Statistics. This brought the total freezings for the year 1941 to approximately 75,500,000 pounds. In 1940 a total of 82,200,000 pounds of fresh fishery products was frozen in Canada.

Freezings of Fishery Products in Canadian Cold-storage Plants

Item	December 1941	December compared with Nov. 1941	December compared with Dec. 1940	November 1941	December 1940
	Pounds	Percent	Percent	Pounds	Pounds
Frozen fresh fish					
Total freezings	2,573,000	- 48	0	4,963,000	2,565,000
Important items:					
Cod:					
Whole	63,000	- 50	- 50	126,000	125,000
Fillets	1,113,000	- 20	+ 86	1,389,000	600,000
Haddock:					
Whole	54,000	- 73	- 41	197,000	92,000
Fillets	220,000	+ 45	+ 55	152,000	142,000
Salmon	39,000	- 96	- 64	1,023,000	109,000
Sea herring	398,000	- 54	- 27	872,000	546,000
Mackerel	*	*	*	220,000	8,000
Pickerel	64,000	+178	+ 56	23,000	41,000
Frozen smoked fish					
Total freezings	557,000	- 52	- 20	1,153,000	694,000
Important items:					
Finnan haddie	126,000	- 44	- 25	227,000	169,000
Fillets: Cod, haddock, etc.	310,000	- 59	- 30	749,000	442,000
Sea herring kippers	115,000	- 9	+203	126,000	38,000

* Data not available.

CANNED FISH TRADE

Unsold Stocks of Canned Salmon Down to 650,000 Cases on December 31

During December unsold stocks of canned salmon in packers' hands declined over 300,000 cases and on December 31 were 32 percent under the same date in 1940, according to the Association of Pacific Fisheries.

Canned Salmon Unsold--Standard Cases

Item	December 31, 1941	November 30, 1941	December 31, 1940
Chinook or king	97,731	118,396	83,187
Puget Sound Sockeye	40,514	46,219	37,727
Alaska red	27,554	89,419	225,552
Coho, silver, and medium red	1/ 5,630	1/ 6,745	173,269
Pink	355,925	573,897	373,299
Chum	116,862	135,651	58,213
Blueback	600	717	572
Steelhead	5,185	5,936	8,066
Total	650,001	976,980	959,885

1/ Does not include coho talls.

Canned Salmon Quotations Up Slightly

Canned salmon quotations reported to the Service's Seattle Market News office were mostly from 5 cents to 15 cents higher per dozen on January 1 for those varieties and sizes not already sold out at the prices prevailing a month earlier on December 1. Columbia River chum salmon in one-pound tall cans was quoted at $1.70 - $1.75 per dozen; and pale chinook salmon, fall pack, at $1.85 per dozen for one-pound tall cans; $2.25 for one-pound flat cans; and $1.25 for half-pound flat cans. Quotations are f.o.b. Pacific Coast shipping points.

Canned Salmon Quotations--Per Dozen Cans

Variety	Can size	Jan. 1 1942	Dec. 1 1941	Jan. 10 1941
Chinook or king, Columbia River	1-lb. fancy flat	$4.50-4.60	$4.50-4.60	$4.00-4.35
	½-lb. fancy flat	2.60	2.60	2.50
Alaska red	1-lb. tall	3.75	3.50-3.70	2.75
	1-lb. flat	**	3.70	2.85
	½-lb. flat	**	-	1.65-1.75
Coho and medium red	1-lb. tall	**	2.50	1.85-2.00
	1-lb. flat	**	3.00	2.15-2.25
	½-lb. flat	1.80-2.00	1.75-1.85	1.30-1.35
Chum	1-lb. tall	1.75	1.70	1.40-1.50
	½-lb. flat	**	1.10-1.15	.90-.95
Pink	1-lb. tall	1.85, few 1.75	1.75	1.65
	1-lb. flat	**	1.90-2.00	1.75-1.80
	½-lb. flat	**	1.20-1.25	.95-1.00
Puget Sound sockeye	1-lb. flat	**	4.00-4.50	3.50-3.65
	½-lb. flat	**	2.50	2.10-2.25

** Reported sold out at December 1, 1941 prices.

Shrimp Pack 26 percent Below 5-Year Average on December 27

Only a few thousand more cases of shrimp were packed in December than during the same period last year by canneries operating under the Seafood Inspection Service of the Food and Drug Administration, according to the Service's New Orleans Market News office. The current season's pack is 26 percent under the 5-year average.

Wet and Dry Pack Shrimp in all Sizes in Tin and Glass--Standard Cases

1941			1940		5-yr.average
Nov.30-Dec.27	Nov.2-Nov.29	July 1-Dec.27	Dec.1-Dec.28	July 1-Dec.28	July 1-Dec.27
72,446	165,409	688,334	64,535	832,947	932,722

Prices for canned shrimp moved up about 5 cents per dozen during December but a number of packers reported that they had not re-entered the market on January 1, 1942. The following quotations are f.o.b. point production in No. 1, plain, tall tins.

Canned Shrimp Prices - Per Dozen Tins

Item	January 1, 1942	December 1, 1941	January 1, 1941
WET PACK			
Small	$1.75-2.00, few 1.70	$1.70-1.95, few 1.65	$1.10-1.15
Medium	1.85-2.10, few 1.80	1.80-2.05, few 1.75	1.15-1.25
Large	1.95-2.15, some 1.90-2.20	1.90-2.15, few 1.85	1.20-1.30
Extra Large or Jumbo	2.10-2.25, some 2.00-2.35	2.00-2.25, few 1.95-2.35	1.25-1.35
DRY PACK			
Small	$1.80-2.00, few 1.70	$1.75-1.95	$1.10-1.15
Medium	1.85-2.10, few 1.80	1.85-2.05	1.15-1.25
Large	1.95-2.15, some 1.90-2.20	1.95-2.15	1.20-1.30
Extra Large or Jumbo	2.10-2.25, some 2.00-2.30	2.15-2.25	1.25-1.35

Pack of Canned Tuna and Mackerel Down One-third

California canners packed 136,158 standard cases of tuna and 174,376 standard cases of mackerel during November--a decline of 54 percent in the production of tuna and 47 percent in the pack of mackerel. Although there was an increase in the demand for canned tuna and mackerel during 1941, canners were unable to obtain sufficient supplies of raw fish to produce packs equal to those canned in 1940. Data for the first 11 months of the year indicate that the production of both of these items will show a decline of about one-third as compared with the previous year according to figures issued by the California Bureau of Marine Fisheries.

California Pack of Tuna and Mackerel -- Standard Cases 1/

Item	November 1941	November 1940	Eleven months ending with November 1941	Eleven months ending with November 1940
	Cases	Cases	Cases	Cases
Tuna:				
Albacore	3	1,280	103,232	153,352
Bonito	4,258	1,568	221,932	104,103
Bluefin	-	12	177,059	327,581
Striped	23,073	101,196	407,314	810,154
Yellowfin	92,127	154,492	1,296,944	1,862,095
Yellowtail	2,979	3,895	153,846	80,248
Flakes	13,718	32,726	173,490	217,013
Tonno style	-	130	37,325	177,215
Total	136,158	295,299	2,571,142	3,731,761
Mackerel	174,376	328,359	788,781	1,242,153

1/ Standard cases of tuna represent cases of 24 one-half pound cans each, while those of mackerel represent cases of 48 one-pound cans.

California Sardine Landings Drop in December

With the outbreak of war and the consequent tying up of a number of sardine purse seiners, particularly in the San Francisco area, the December landings of sardines in California were down about two-thirds from the previous month

California Sardine Landings, Canned Pack, and Byproducts

Item	Unit	Month		Season from Aug. 1 to --	
		1941	1940	1941	1940
		Nov. 28-Dec. 26	Nov. 29-Dec. 27	Dec. 26	Dec. 27
Landings	Tons	31,893	100,560	513,739	332,233
Canned sardines (48 lbs.)	Std. cases	362,518	715,728	4,309,898	2,009,975
		Nov. 1 - 30	Nov. 1 - 30	Nov. 30	Nov. 30
Meal	Tons	21,144	25,000	72,481	41,419
Oil	Gals.	4,281,671	4,354,951	15,329,985	8,479,082

Canned California sardine quotations, f.o.b. California shipping points, were reported to the Service's Seattle Market News Service as follows:

Canned California Sardine Quotations--Per Case

Item	Cans per case	January 1, 1942	November 15, 1941	January 1, 1941
Tomato or mustard sauce:				
1-lb. oval	48	$4.25-$4.30	$3.80	$3.25-$3.50
1-lb. tall	48	3.40- 3.50	3.10	2.50- 2.65
½-lb. round	96	4.50	*	3.25
Natural:				
1-lb. oval	48	4.00- 4.15	*	3.15- 3.30
1-lb. tall	48	3.15- 3.25	2.90	2.25- 2.40
½-lb. round	96	4.10- 4.25	*	3.00
5-oz. round	100	3.75	*	2.90- 3.10

* Not reported.

Sardine meal prices were reported to be $70 per ton on January 1 as compared with $60 on December 1 and $47.50 a year ago. On January 1 sardine oil was unchanged from the previous month, being quoted at 60 cents per gallon. On January 1, 1941, 38 cents per gallon was reported.

FOREIGN FISHERY TRADE

Canadian Exports of Filleted Fish to United States 61 Percent of Quota at End of November

On November 29 Canada had utilized 61.4 percent, or 9,221,649 pounds, of the annual quota of "filleted fish, fresh or frozen: cod, haddock, hake, pollock, cusk, and rosefish" it is permitted to export to the United States under the 1948 Trade Agreement, according to U. S. Treasury Department figures. The Agreement reduced the duty from 2½ cents to 1 7/8 cents per pound and provided for yearly imports of 15 million pounds at that rate.

South African Exports of Frozen Sea Crawfish Tails to United States Increasing

During the first 6 months of 1941, 1,365,193 pounds of frozen sea crawfish (spiny lobster) tails were exported to the United States from South Africa, according to a recent American Consular Report. Annual imports have increased from 1,020 pounds in 1934 to 1,690,335 pounds in 1940.

A Crawfish Export Act was passed in 1940 to control grades and standards of exports, but regulations have not yet been issued under the Act. The Director of Fisheries, however, does issue Voluntary Certificates certifying that he has carried out organoleptic tests on representative samples of a consignment and found the frozen sea crawfish tails to be in sound condition, adequately frozen, and suitable for human consumption.

GUIDE TO THE FISHES OF THE GREAT LAKES AND TRIBUTARY WATERS, pp. 100

By

Carl L. Hubbs and Karl F. Lagler

Published by Cranbrook Institute of Science, Bloomfield Hills, Michigan
Cloth cover $1.00; paper cover 50 cents

Chicago wholesale fish dealers handle about 30 species of fresh-water fish from the Great Lakes, or at least approximately that number is important enough to warrant listing in the United States Fish and Wildlife Service's daily Market News reports and monthly and annual summaries. Probably few dealers realize that over 200 kinds of fish now inhabit the Great Lakes and its tributary waters, or have existed there in historic times. In fact, the authors of "Guide to the Fishes of the Great Lakes and Tributary Waters" list a total of 229 forms divided into 170 species and 28 families.

The natural fauna of the Great Lakes region has been affected both by nature and by man. Drainage during the ice age was possible southward to the Gulf Coast and southeastward to the Middle Atlantic Coast, providing a means of access to the Lakes for species from these regions. With the retreat of the glaciers these communications finally disappeared. Later man stepped in and by building canals eliminated barriers between the Lakes, such as Niagara Falls, and restored access to the Mississippi River. As a result, alewives are taken in Lakes Huron and Erie, sea lampries are found throughout the Lakes, and Mississippi River varieties have entered their waters. Stocking the Lakes also has added new species. Smelt is perhaps the best known example in the commercial catch but other introduced varieties include carp, goldfish, land locked salmon, brown trout, and rainbow trout.

For those interested in our inland fresh-water fishes the authors have produced a volume which permits even a non-expert to learn the important characteristics used in their classification and to identify them accurately. The methods used in counting and measuring are carefully explained with the aid of diagrams, and the keys to the correct taxonomic designation are relatively simple. In addition to the scientific and common names, the keys also list the geographical regions in which the form is found and describe the type of water usually frequented.

More than a hundred excellent plates make identification a simple matter in many cases and contribute materially to the solution in others. A long list of references is available for those who desire more detailed information.

Those in the industry with more than a passing interest in their business should find this book useful. It not only is a fine reference volume to use when seldom seen fish are included in a shipment but a brief study of its contents cannot but add to one's fishery knowledge. And who knows but what a study of its more than 200 forms might turn up new commercial possibilities, or even new supplies of our present species from unexploited sources.

A. W. Anderson
U. S. Fish and Wildlife Service.

MARITIME COMMISSION STATES VESSELS NOT AVAILABLE FOR BRISTOL BAY

The Fish and Wildlife Service was informed by the Maritime Commission on January 28 that it was not expected that vessels would be available to transport salmon canning personnel and material to Bristol Bay or Peninsula Districts for the 1942 season. The Commission believed, however, that transportation would be available for Kodiak Island and all districts east thereof. The Maritime Commission has designated A. R. Lintner to handle shipping matters for them at Seattle with headquarters in the Dexter-Horton Building.

THE COVER PAGE

"As an American enterprise, commercial king crab operations in the north Pacific may well supplement established Alaskan industries such as salmon canning."

Thus did LeRoy S. Christey, head of the field staff, sum up the results of the Service's 2-year, 5-vessel king crab exploratory investigation which ended September 25 of last year.

With the development of this new industry, which should yield a considerable additional income to American enterprise, the season of fishery operations will be extended and seasonal unemployment among fishermen will be materially reduced. Christey explained that their best crab fishing was found to immediately precede and immediately follow the salmon fishing season.

Originally suggested by President Roosevelt as a means of developing a new business for the fisheries industry, the initial crab investigations took place in 1940. These were devoted largely to testing commercial canning methods on the high seas. The 1941 investigations were confined entirely to exploration of the crab beds, and to studies of the best methods for practical capture of the large shellfish that ofttimes tipped the scales at 20 pounds and spread 5 feet from claw to claw.

The picture on the cover shows the otter trawl used on the 58-foot Locks unloading a fine lot of the giant king crabs in northern Alaskan waters.

FISHERY TRADE INDICATORS

(Expressed in Thousands of Pounds)

Item	Month	Latest month	Same month a year ago	Previous month
FRESH FISH LANDINGS				
Boston, Mass.	November	23,067	21,555	25,458
Gloucester, Mass.	do	12,336	8,751	17,447
Portland, Maine	do	1,642	1,723	1,691
Boston, Gloucester, and Portland:				
Cod	do	7,461	7,387	4,682
Haddock	do	6,879	5,031	10,240
Pollock	do	10,036	9,760	3,695
Rosefish	do	8,804	6,188	13,945
FISH RECEIPTS, CHICAGO 1/				
Salt-water fish	do	2,135	1,213	2,078
Fresh-water fish	do	2,683	3,195	2,788
Shellfish, etc.	do	1,431	1,429	1,452
By truck	do	2,181	2,459	2,065
By express	do	1,102	1,107	1,309
By freight	do	2,966	2,271	2,944
COLD STORAGE HOLDINGS 2/				
New York, N. Y.:				
Salt-water fish	December	6,805	5,054	7,097
Fresh-water fish	do	1,648	3,178	1,730
Shellfish, etc.	do	2,525	1,932	2,433
Boston, Mass.:				
Salt-water fish	do	15,171	15,833	19,430
Fresh-water fish	do	33	70	47
Shellfish, etc.	do	1,331	1,209	1,293
Chicago, Ill.:				
Salt-water fish	do	2,634	1,694	2,300
Fresh-water fish	do	3,070	2,397	2,395
Shellfish, etc.	do	1,764	1,278	1,390
Unclassified	do	231	304	251
United States:				
Cod fillets	do	3,242	3,001	3,223
Haddock fillets	do	9,017	6,399	10,061
Halibut	do	11,164	10,794	13,278
Mackerel	do	7,543	7,880	8,513
Pollock fillets	do	5,147	5,211	2,208
Rosefish fillets	do	4,613	1,370	5,243
Salmon	do	11,201	11,074	12,095
Whiting	do	11,506	9,633	12,455
Shrimp	do	9,569	7,422	7,278
New England, all species	do	30,423	28,463	32,005
Middle Atlantic, all species	do	23,289	17,748	22,897
South Atlantic, all species	do	7,110	5,275	7,148
North Central East, all species	do	19,789	16,140	15,798
North Central West, all species	do	6,599	4,539	5,076
South Central, all species	do	7,133	4,893	5,827
Pacific, all species	do	22,930	23,030	26,694

1/ Includes all arrivals as reported by express and rail terminals, and truck receipts as reported by wholesale dealers including smokers.

2/ Data for individual cities are as of the last Thursday of the month, except those for Boston which are for the last Wednesday of the month, and those for geographical areas and the total of the United States which are as of the 15th of the month.

Note.--Data for the latest month are subject to revision.

PRINCIPAL FISHERY FIELD OFFICES AND LABORATORIES
OF THE FISH AND WILDLIFE SERVICE

Division of Fishery Industries

Boston, Mass.	B. E. Lindgren.....	253½ Northern Ave. Market News Service.
Chicago, Ill.	E. C. Hinsdale.....	200 N. Jefferson St. Market News Service
Cincinnati, Ohio....	C. H. Chilton.....	Palace Hotel. Market Development.....
College Park, Md. ..	J. M. Lemon.....	Fisheries Technological Laboratory.....
	K. O. Burr.....	P. O. Box 128. Market Development.....
Des Moines, Iowa....	J. J. Murray.....	General Delivery. Market Development..
Jacksonville, Fla. .	S. C. Denham.....	309 Duval Bldg. Market News Service...
Ketchikan, Alaska...	M. E. Stansby.....	Fisheries Technological Laboratory.....
Mayaguez, P. R.	J. F. Puncochar.....	Fisheries Technological Laboratory.....
New Orleans, La. ...	C. E. Peterson.....	1100 Decatur St. Market News Service..
New York, N. Y.	W. H. Dumont.....	155 John St. Market News Service.....
Pittsburgh, Pa.	F. C. Randlett.....	438-J New P.O. Bldg. Market Development.
San Pedro, Calif. ..	C. B. Tendick.....	Post Office Bldg. Fishery Statistics..
Seattle, Wash.	H. W. Harrison.....	2725 Montlake Blvd. Fisheries Technological Laboratory.....
	V. J. Samson.....	417 Bell St. Terminal. Market News Service.....

Division of Fish Culture

		Regional Headquarters:
Albuquerque, N. Mex.	Theodore S. Kibbe.....	220 West Copper Ave. Reg. #2.....
Atlanta, Ga.	John Blosz.....	316 Glenn Bldg. Reg. #4.....
Boston, Mass.	Henry C. Markus.....	1140 Park Square Bldg. Reg. #5.....
Minneapolis, Minn. .	C. F. Culler.....	500 National Building. Reg. #3.....
Portland, Oreg.	Alphonse Kemmerich.....	600 Weatherly Building. Reg. #1.....

Division of Fishery Biology

Ann Arbor, Mich. ...	Dr. John Van Oosten.....	University Museums. Great Lakes Fisheries Investigations.....
Beaufort, N. C.	Dr. Herbert F. Prytherch.	Fisheries Biological Laboratory.....
Cambridge, Mass. ...	W. C. Herrington.....	Room A-210 Harvard Biological Laboratory N. Atlantic Fisheries Investigations.
College Park, Md. ..	Robert A. Nesbit.....	Fishery Technological Laboratory Mid. & S. Atlantic Fish. Investigations
Columbia, Mo.....	Dr. M. M. Ellis.....	101 Willis Ave. Interior Waters Investigations.....
Milford, Conn.	Dr. Victor Loosanoff.....	Fishery Laboratory. New England Oyster Investigations.....
New Orleans, La. ...	M. J. Lindner.....	302 Custom House Bldg. 423 Canal St. Gulf Shrimp Investigations.....
Pensacola, Fla.	Dr. A. E. Hopkins.....	Box 1826. Gulf Oyster Investigations..
Seattle, Wash.	George B. Kelez.....	Alaska Fishery Investigations 2725 Montlake Blvd. .....
	Harlan B. Holmes.....	North Pacific Fisheries Investigations 2725 Montlake Blvd. .....
Stanford University, Calif.	O. E. Sette.....	Room 450-B Jordan Hall. Pilchard Investigations.....

Division of Alaska Fisheries

Juneau, Alaska.....	Paul Thompson.....	Federal Bldg. Alaska Fisheries Service
Seattle, Wash.	Clarence L. Olson.....	706 Federal Bldg. Alaska Fisheries
	(Miss) Ted Murphy.....	Service.....

THE MINERAL CONTENT OF THE EDIBLE PORTIONS OF SOME AMERICAN FISHERY PRODUCTS

Investigational Report No. 41

In addition to the established value of fishery products as protein foods and the importance of many of them as sources of vitamins, seafoods also are excellent sources of many essential minerals, according to Fisheries Investigational Report No. 41, entitled "The Mineral Content of the Edible Portions of Some American Fishery Products", by Hugo W. Nilson and E. J. Coulson. The report brings out the following facts, among others:

1. The flesh of canned salmon is an excellent source of protein and calories. The bones are soft and are an exceptional source of bone forming minerals. Canned salmon contains an equal quantity of magnesium, almost twice the phosphorus and about fifteen times as much calcium as beef round.

2. Oysters are an excellent source of iron and copper and are one of the best sources of iodine. They follow pork and beef as a source of iron and are first in copper content among common food stuffs on the basis of an average serving portion. They also contain almost half as much calcium, 5 times as much magnesium and more phosphorus than milk on an equal weight basis.

3. Shrimp contain an equal quantity of phosphorus, twice the magnesium, and almost 5 times as much calcium as beef round. They include almost one-half the iron content of oysters and the copper content approximates that of white bread. Shrimp also is an excellent source of iodine.

The report also includes information on the mineral content of fillets and crab meat and discusses the daily requirements of essential minerals.

The report may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents. If purchased in quantity lots of 100 or more, a discount of 25 percent is allowed.

10131

SOURCES OF FEDERAL FISHERY STATISTICS

Fish and Wildlife Service Reports

Current Fishery Statistics:

Landings at Important Fishing Ports.--Monthly and annual detailed data: Landings at Boston and Gloucester, Mass., and Portland, Maine, by poundage and value, and catch by species, gear and bank; and receipts and landings at Seattle, Wash., and operations of Pacific Halibut Fleet.

Freezings and Cold-storage Holdings of Fishery Products.--Monthly and annual data on fishery products frozen and held.

Production of Manufactured Fishery Products.--Annual information on production of canned fishery products and byproducts; production of fresh and frozen packaged fish; summary of quantity and value of all manufactured fishery products; and preliminary statements on canned salmon and oyster packs and production of fresh-water mussel-shell products.

Sectional Surveys.--Annual information on number of commercial fishermen; kind and quantity of fishing gear operated; poundage and value of catch; employment in fishery wholesale and manufacturing establishments; and data on the production of manufactured fishery products for: New England, Middle Atlantic, Chesapeake Bay, South Atlantic and Gulf, Pacific Coast and Lake States, and Alaska.

Fishery Market News:

Market News Reports.--Daily, monthly and annual mimeographed reports on production, movement, prices, storage and canning of fishery products from 6 field offices.

Market News Review.--"Fishery Market News", a periodic current review of fishery marketing information.

Annual Report:

Fishery Industries of the United States.--Review of activities of Division of Fishery Industries and summarization of Current Fishery Statistics, usually in greater detail.

Bureau of Foreign and Domestic Commerce Reports

Imports of Fish and Fish Products.--Monthly advance statement on poundage and value of imported edible fishery products by country of origin.

Exports of Meat and Canned Fish.--Monthly advance statement on exports of canned salmon, sardines, shrimp, and other shellfish, to individual foreign countries.

Monthly Summary of Foreign Commerce of the United States.--Report on total poundage and value of fishery products imported and exported.

Foreign Commerce and Navigation of the United States.--Annual report on imports and exports with principal items shown separately.

Bureau of the Census Reports

Production, Consumption, and Stocks of Fats and Oils.--Quarterly statement on domestic production, imports, exports, and stocks of cod and cod-liver oil, whale oil, and other fish oils.

Factory Consumption of Primary Animal and Vegetable Fats and Oils, by Classes of Products.--Advance annual report on poundage of marine-animal (whale oil) and fish oil utilized in manufacture of various edible and industrial products.

Animal and Vegetable Fats and Oils.--Annual summary combining two reports above, plus comparative figures for preceding years.

Quarterly Canned Foods Stock Report.--Information on canners and distributors stocks of canned salmon, sardines, and tuna.

Bureau of Labor Statistics Reports

Wholesale Prices.--June and December issues contain average monthly wholesale prices of canned pink and red salmon, pickled cod and herring, salt mackerel, and smoked salmon for each of the preceding six months.

Retail Prices.--Monthly report containing retail prices of pink and red salmon.

Tariff Commission Reports

Periodic Reports.--Include studies on specific fisheries or fishery problems.

-o-

177182